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EXAMINER	
WELTER, RACHAEL E	

ART UNIT	PAPER NUMBER
1611	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/529,636	PETEREIT ET AL.	
	Examiner	Art Unit	
	RACHAEL E. WELTER	1611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 December 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *14-21 and 24-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *14-21 and 24-32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *11/20/08, 4/13/09*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Status

Claims 14-21 and 24-32 are pending. Claims 1-13 and 22-23 are cancelled.

Information Disclosure Statement

The information disclosure statements (IDS) submitted on November 20, 2008 and April 13, 2009 were in compliance with the provisions of 37 CFR 1.97 and 37 CFR 1.98. Accordingly, the information disclosure statements were considered by the examiner. A signed copy of forms 1449 are enclosed herewith.

Claim Objections

The objection to claim 23 is withdrawn in light of applicant's cancellation of the claim.

Claim Rejections - 35 USC § 112

The rejection of claims 14-32 rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling are withdrawn in light of applicant's persuasive arguments.

The rejection of claims 14-32 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention are withdrawn in light of applicant's persuasive arguments and amendment.

Claim Rejections - 35 USC § 103

The rejection of claims 30-32 rejected under 35 U.S.C. 103(a) as being unpatentable over Mulye (US 2002/0192285) in view of Pinoit et al (*Polymer* 43:2321-2328) is withdrawn in light of applicant's persuasive arguments.

The rejection of claims 14-29 rejected under 35 U.S.C. 103(a) as being unpatentable over Mulye (US 2002/0192285) in view of Murphy (US Patent No. 3,296,016) and Pinoit et al (*Polymer* 43: 2321-2328) is withdrawn in light of applicant's persuasive arguments.

However, upon further consideration, a new ground(s) of rejection is made below.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 14-32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 14 recites, "A method for producing a coated pharmaceutical form or part of a pharmaceutical form or a food supplements or a part thereof..." and further recites, "...to produce the coated pharmaceutical form or part of pharmaceutical form or a food

supplements or a part thereof." This limitation is indefinite because the wording of the claim is confusing and it is unclear if applicant is referring to a pharmaceutical form or food supplement that is partially coated. For examination purposes, the examiner will interpret the limitation as a method for producing a pharmaceutical form or food supplement that is partially coated or completely coated. However, appropriate correction is required for reasons of clarity.

Furthermore, claim 14 recites that the two coating agents are simultaneously sprayed by spray application using one or more spray devices, which, singly or together, atomize liquids separately, and whose spray beams overlap, and wherein the two coating agents are mixed in the spraying process. However, it is not clear how the two coating agents can be kept separate and be mixed only in the spraying process by overlapping spray beams when the number of nozzles is not specified in the claim. How can the two coating agents be kept separate and be mixed in the spraying process by overlapping spray beams using one spraying device without the number of nozzles specified? Thus, applicant should specify the number of nozzles in the claim to make it clear how the coating agents remain separate and are subsequently mixed in the spraying process by overlapping spray beams.

Dependent claims 15-32 are rejected as being dependent on a rejected base claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 30-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mulye (US 2002/0192285).

Claims 30-32 are drawn to pharmaceutical forms produced by the method for producing a coated pharmaceutical form. Since this is a product-by-process limitation, determination of the patentability is based on the product itself. In this case, the product must comprise a first film-forming coating agent, a (meth)acrylate copolymer of 30-80 wt.% or 70-20 wt.% (meth)acrylate monomers having a tertiary amino group in the alkyl radical. Furthermore, the product must comprise a second film-forming coating agent that is a polymer having anionic groups. Moreover, the coating agents should comprise no more than 20 wt.% plasticizer and no more than 5 wt.% of nonionic emulsifier.

Mulye teaches an aqueous pharmaceutical coating formulation which is used for coating core elements containing one or more medicaments to achieve controlled

release (abstract). Muyle teaches that the core elements contain medicaments, such as vitamins, antiarrythmics, anti-inflammatory drugs, etc (paragraphs 0054-0055). The central core can be in the form of a pellet, seed, bead, or sphere (paragraph 0065-0066). The first component of the coating composition is a water insoluble polymer which includes methacrylic ester polymers and polymers or copolymers of acrylates or methacrylates having low quaternary ammonium content (paragraph 0037). In addition, the coating formulation contains an enteric polymer, which can be selected from polymers having anionic groups including polyvinyl acetate phthalate (PVAP) and a methacrylic acid copolymer (paragraph 0040). Mulye teaches that the coating composition can contain plasticizers and emulsifying agents (paragraph 0047, 0048). As such, Mulye suggests that the coating composition can be free of plasticizers and emulsifying agents. In the examples of Mulye, plasticizer is present in a concentration of about 15 wt.% of the water-insoluble polymer and an emulsifier is utilized in a concentration up to 1% (paragraphs 0104, 0107).

Although Mulye suggests the use of a first film-forming coating agent (methacrylate copolymer), ethyl cellulose is preferred and thus the coating agent is not immediately envisaged and therefore the instant rejection is made under obviousness.

However, it would have been obvious to an artisan of ordinary skill at the time the invention was made to look at the guidance provided by Mulye and incorporate the methacrylate copolymer in the coating composition One would have been motivated to do so since Mulye suggests the use of a methacrylate copolymer as a suitable coating agent. Furthermore, it is within the skill of an artisan to select a given coating agent

depending on the desired release characteristics of the composition, which depends on the needs of a particular patient population.

Claims 14-16, 18-21, and 24-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishiyama et al (EP 1181983) in view of Mulye (US 2002/0192285)

Nishiyama et al teach an enteric coating technique capable of applying enteric coating to a preparation, such as tablets, granules, and capsules (paragraphs 0006, 0024). According to Nishiyama et al, the invention has a nozzle for spraying an enteric polymer dispersion/solution and a nozzle for spraying a plasticizer dispersion/solution (paragraph 0007). The enteric polymer and plasticizer are sprayed simultaneously but separately from the nozzle openings of a spray gun so that they can be mixed during spraying and coating. As such, Nishiyama et al teach that the enteric coating is obtained without clogging the spray gun and keeping the equipment cost low. Nishiyama et al teach that the anionic polymer, cellulose acetate phthalate can be used as an enteric coating (paragraph 0017). According to Nishiyama et al, plasticizer is used in an amount of 5-60 wt.% and no particular limitation is imposed on the amount of plasticizer as long as enough is used to attain an improvement (paragraph 0022). Nishiyama et al also teach that the coating amount differs depending on the kind of solid dosage form and teaches that 3-50 wt.% based on the weight of the solid dosage form is preferred (paragraph 0023).

Nishiyama et al do not teach the addition of a first film-forming coating agent, such as a methacrylate copolymer, that can be mixed with the enteric polymer during spraying or coating by simultaneously spraying the coatings using two nozzles.

Mulye teaches an aqueous pharmaceutical coating formulation which is used for coating core elements containing one or more medicaments to achieve controlled release (abstract). The first component of the coating composition is a water insoluble polymer which includes methacrylic ester polymers and polymers or copolymers of acrylates or methacrylates having low quaternary ammonium content (ie. Eudragit RS, RL) (paragraph 0037). In addition, the coating formulation contains an enteric polymer, which can be selected from polyvinyl acetate phthalate (PVAP), cellulose acetate phthalate, and a methacrylic acid copolymer (paragraph 0040). According to Mulye, the enteric polymer and the water insoluble polymer are present in effective amounts to form a film over the active ingredient that substantially retards the release of the medicament in aqueous solutions at a pH of 4.5 or less (paragraph 0042). Mulye teaches that the coating is a heterogenous mixture or dispersion (paragraph 0051). The coating polymers are present in the coating composition in a weight ratio ranging from about 3:1-20:1 (paragraph 0042) and the coating composition is preferably 3-15 wt.% of the core (paragraph 0052). Mulye teaches that the coating composition can contain plasticizers and emulsifying agents (paragraphs 0047, 0048). As such, Mulye suggests that the coating composition can be free of plasticizers and emulsifying agents. In the examples of Mulye, plasticizer can be present in a concentration of about 15 wt.% of the

water-insoluble polymer and an emulsifier is utilized in a concentration up to 1% (paragraphs 0104, 0107).

Therefore, it would have been obvious to an artisan of ordinary skill at the time the invention was made to add a water insoluble polymer, such as a methacrylate copolymer to the coated preparations of Nishiyama et al. One would have been motivated to do so because Mulye teaches that a combination of enteric polymer and water insoluble polymer can interact to form a barrier over a core element that can substantially retard the release of a medicament at a pH of 4.5 or less. Thus, one would have been motivated to incorporate a water-insoluble polymer with the enteric polymer of Nishiyama et al in order to obtain a desired release of the medicament in its core element, which depends on the needs of a particular patient population. Furthermore, it would have been obvious to spray the water insoluble polymer via another nozzle and spray it simultaneously with the enteric polymer and plasticizer of Nishiyama et al so that they can all be mixed during spraying and coating. One would have been motivated to do so in order to avoid spray gun clogging and to keep the equipment cost low, as taught in Nishiyama et al, especially since Mulye teaches that the mixing of the two coating agents (water insoluble polymer and enteric polymer) result in a heterogenous mixture or dispersion and that the dispersions can be described as suspensions or emulsions.

Regarding claims 18 and 25-26, which are directed to second film forming agent being a polyvinyl acetate derivative and (meth)acrylate copolymer, although Nishiyama et al teach cellulose acetate phthalate as an enteric coating polymer, Mulye teaches

that polyvinyl acetate phthalate, (meth)acrylate copolymer, and cellulose acetate phthalate can be used as enteric coating polymers. Therefore, since Mulye teaches that the enteric coating polymers are functionally equivalent, one would have been motivated to use polyvinyl acetate phthalate and (meth)acrylate copolymer in the coating of Nishiyama et al with an expectation of similar results.

Regarding claim 21, which is directed to the spray application taking place in a drum coater, a coating pan, a fluidized bed apparatus, or a spray sifter, although Mulye does not teach the simultaneous spraying of the coating agents that are mixed when the spray beams overlap, Mulye teaches that various coating apparatuses may be employed during the spray application including a fluidized bed coating apparatus, a pan coating apparatus, etc (paragraph 0078).

Regarding claim 24, it would have been obvious to an artisan of ordinary skill at the time the invention was made to use two or more spray devices. The utilization of two spray devices doubles the amount of flow and increases the amount of coating that can be sprayed onto a substrate versus using only one spray device. As such, one would have been motivated to manipulate the spraying device setup and maximize the flow and amount of coating that could be sprayed onto a substrate.

Regarding the amount of plasticizer specified in claim 1, Nishiyama et al teach a range that encompasses the amount of plasticizer specified in the instant claims (not more than 20 wt.%). According to MPEP 2144.05, when the claimed ranges overlap or lie inside ranges disclosed by the prior art a prima facie case of obviousness exists. *In re Wertheim, 541 F.2d 257, 191USPQ 90 (CCPA 1976); In re Woodruff, 919 F.2d 1575,*

16 USPQ2d 1934 (Fed. Cir. 1990). In addition, it would have been obvious to an artisan of ordinary skill at the time the invention was made to routinely optimize the amount of plasticizer, especially since Nishiyama et al state that no particular limitation is imposed on the amount of plasticizer as long as enough is used to attain an improvement (paragraph 0022). One would have been motivated with a reasonable expectation of success to manipulate and lower the amount in order to best achieve the desired results, especially since it is known in the art that plasticizers can be toxic. Thus, absent some demonstration of unexpected results from the claimed parameters, it would have been obvious at the time of Applicant's invention. See *In re Aller, 220 F.2d 454,456, 105 USPQ 233, 235 (CCPA 1955)* & MPEP 2144.05. Moreover, further motivation is provided in Mulye, which utilizes low amounts of plasticizers in its examples.

Claims 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nishiyama et al (EP 1181983) in view of Mulye (US 2002/0192285) as applied to claims 14-16, 18-21, and 24-29 above and in further view of Timmins et al (US Patent No. 6,475,521).

The disclosures of Nishiyama et al and Mulye are discussed above. As reiterated above, Mulye teaches the water-insoluble polymers, Eudragit RS and RL.

However, neither Nishiyama et al nor Mulye teach the specific first-forming coating agent disclosed in claim 17, wherein the coating agent is a copolymer of 25% by weight methacrylate, 25% by weight butyl methacrylate, and 50 wt.%

dimethylaminoethyl methacrylate. As evidenced by the instant specification, a coating agent with these specified ratios of polymer is Eudragit E100 (pg. 8, lines 4-9).

Timmins et al teach a controlled release delivery composition comprising hydrophobic polymers including Eudragit RS, Eudragit RL, and Eudragit E100 (column 10, lines 44-55).

Therefore, it would have been obvious to an artisan of ordinary skill at the time the invention was made to combine the teachings above and utilize the water insoluble polymers of Timmins et al or Mulye as coating agents. One would have been motivated to do so since Timmins et al teach that the instant coating agent and Mulye's coating agent (Eudragit RS, RL) are both useful as hydrophobic polymers. Thus, one would have been motivated to substitute the instant water-insoluble polymer (Eudragit E100) into the coating composition of Mulye with an expectation of similar results since Timmins et al teach the equivalency of the coating agents.

Response to Arguments

Applicant's arguments filed 12/19/08 have been fully considered but they are moot in view of the new grounds for rejection presented above. The examiner notes that Mulye was used as a reference in the previous non-final rejection mailed 9/19/08. However, in applicant's arguments, applicant only argues the combination of Mulye with the references used in the previous rejection. Since Mulye is now combined with new references in this rejection and is no longer used as a primary reference in regard to the rejection of claims 14-21 and 24-29 under USC 103 (a), applicant's arguments are

moot.

Conclusion

Claims 14-21 and 24-32 are rejected. No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RACHAEL E. WELTER whose telephone number is (571) 270-5237. The examiner can normally be reached 7:30-5:00 Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sharmila Landau can be reached at 571-272-0614. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

REW

/Lakshmi S Channavajjala/
Primary Examiner, Art Unit 1611
April 24, 2009